

APRIL/MAY 2025

**FBT61/CBT61 — PLANT AND ANIMAL  
BIOTECHNOLOGY**

Time : Three hours

Maximum : 75 marks

SECTION A.— (10 × 2 = 20 marks)

Answer ALL questions.

1. What is plant tissue culture?
2. What is auxin?
3. Define callus culture.
4. Explain the term cybrid.
5. What is the role of trypan blue in viability test?
6. Summarize the uses of CO<sub>2</sub> incubator.
7. Define Gene therapy.
8. What is transgenic fish?
9. Define embryo splitting.
10. Infer the role of cryoprotectant in cell preservation.





SECTION B — ( $5 \times 5 = 25$  marks)

Answer ALL questions.

11. (a) Identify the steps involved in the preparation of plant tissue culture.

Or

- (b) Examine the structure, mode of action of Gibberellins.

12. (a) Organize the steps involved in the fusion of protoplasts.

Or

- (b) Examine about somatic embryogenesis in plant tissue culture.

13. (a) Summarize the media preparation for animal cell culture.

Or

- (b) What is organ culture? Compare serum media and serum free media. (2 + 3)

14. (a) Outline about molecular diagnosis of genetic disorders.

Or

- (b) Simplify the method involved in production of transgenic animal.

15. (a) Organize the procedure of artificial insemination.

Or

- (b) Discover the steps involved in embryo splitting.

SECTION C — ( $3 \times 10 = 30$  marks)

Answer any THREE questions.

16. Explain the preparation of suitable explants.  
17. Discuss about somatic embryogenesis.  
18. Appraise about cytotoxicity and viability assays.  
19. Elaborate on gene therapy with its applications.  
20. Discuss on the procedure involved in invitro fertilization.

